Soft Robotic Sleep Aid

Robotic sleep device designed to assist children and adolescents with relaxation and falling asleep, developed as my HSC Design & Technology Major Work and presented at ISEF.

Skills

- Soft robotics design
- Rapid prototyping & iteration
- Prototyping with user feedback
- Survey design, research
- Electronics: circuit board design and creation
- Soldering
- CAD modelling for soft and rigid parts
- 3D printing of different materials (including compliant materials like TPU)
- Sewing and fabric template design
- Programming for embedded control with Arduino
- Scientific documentation & competition entry

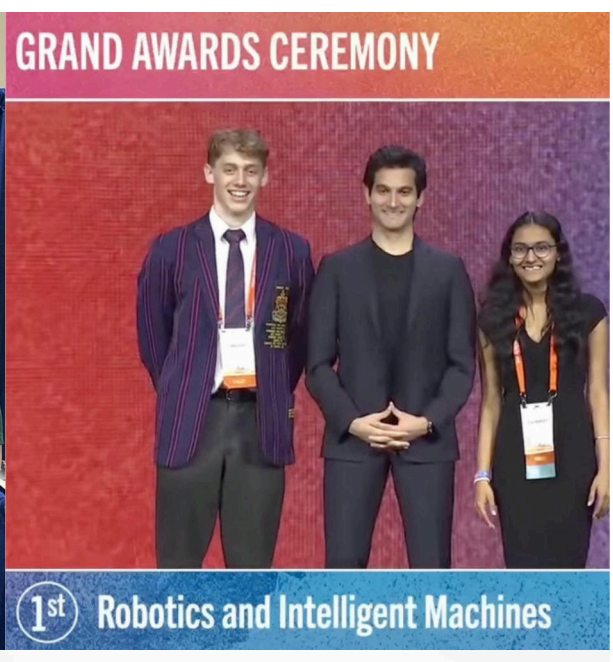
Awards

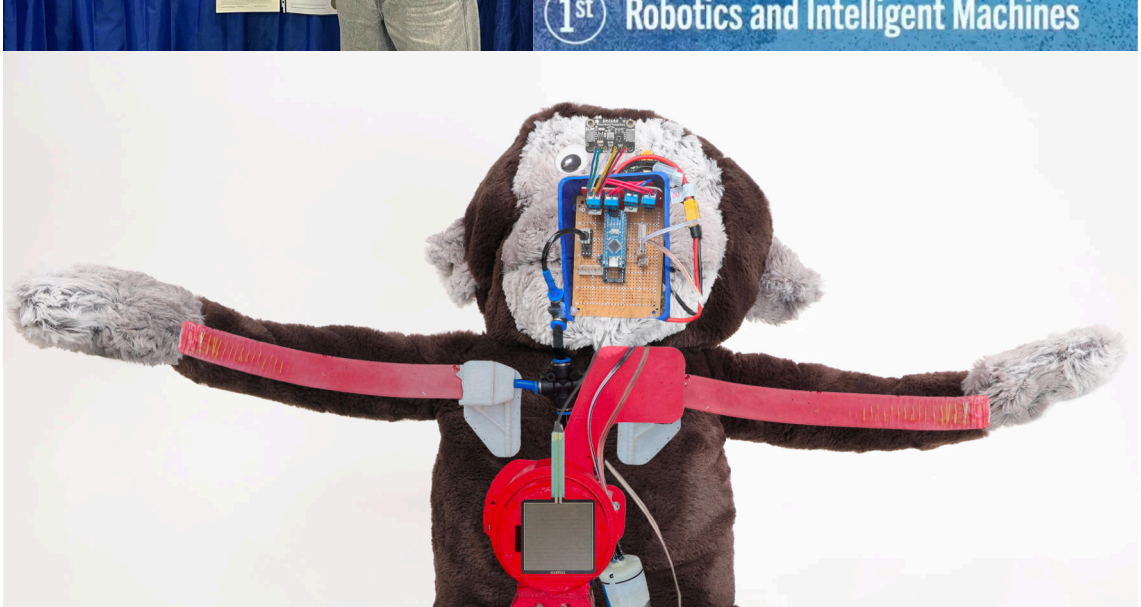
- **1st Place Prize** 🥇 in Robotics and Intelligent Machines category (US$6000 prize) at the International Science and Engineering Fair, sponsored by Liquid AI
- Grand Award (1st) as the STANSW Young Scientist of the Year
- Nomination and selection for SHAPE (showcase of outstanding HSC Design and Technology projects) 🖼️
- 3rd in Technological Innovation category at the STANSW Young Scientist Awards 🦾
- Ranked first in the AUSSEF competition 🇦🇺
- Project presented in NESA's 'Learning Lab' on the SHAPE website 👩🏽‍🏫
- Voted best project presentation at AUSSEF's face-to-face meeting (winning an Espresso display) 📺

Links & Media

- ISEF (short) Project Video
- NESA SHAPE Learning Lab Video
- ISEF ProjectBoard Online Display
- Science News Explores article
- ISEF Experience Post
- ISEF Reflections Post

Finished product images





Process/Production images: